

MAPLE SYRUP OPERATION INSPECTION GUIDELINES

Maple syrup processing is a seasonal activity that occurs in early spring between March and April and may last anywhere from several days to several weeks. The environment at some of the operations can be very rustic and operations may be remotely located.

Due to the temporary duration and sometimes remote locations of this type of food processing activity, it is recommended that the inspector use reasonable discretion and sound professional judgment when addressing food safety concerns regarding issues such as sanitary reclaim of water, temporary hand wash stations and plumbing requirements.

The MAPLE SYRUP OPERATION CHECKLIST (F-fd-332) is designed to help the inspector check through each activity of maple syrup processing establishments but does not replace the Food Processing Establishment Inspection Report (F-fd-2).

SAP COLLECTION AND STORAGE

Sap may be collected with pails, commercial bags and/or through a tube system (with or without vacuum).

NOTE: Be aware that in the past the food additive Para-formaldehyde had been allowed to be used by operators to control microbial and fungal growth in maple tree tap holes. This practice is NO LONGER allowed.

Equipment should be cleaned and sanitized prior to and after the season. Reason: No equipment should be put away and stored while in a dirty condition and because of the long storage period it is recommended the items be rewashed and sanitized prior to use.

Equipment should also be stored clean and protected during the production season.

- Pails shall include covers that provide protection from debris and rain water. Pails shall be food grade; stainless, galvanized metal and plastic in good condition (sanitary and easily cleanable) are acceptable.
- Collection bags shall be good grade plastic and intended for this use.
- Tube sap collection systems shall include food-grade plastic tubing that is free of visible soil and maintained in a mold free condition.
- Sap storage tanks shall be made of food grade material, clean and in good condition. Underground tanks and/or concrete cisterns may be used for sap storage as they help to keep the sap cool – they must be of sanitary construction and easily cleaned.
- All openings to sap collection and storage tanks shall be kept covered or effectively sealed if located outside the building.
- Sap transfer hoses shall be kept capped or plugged between uses.

SAP PROCESSING

NOTE: Occasionally operators install collection pans or tubes inside the evaporator hood to reclaim hot condensation water for cleaning and hand washing purposes. Some operators also reclaim water from Reverse Osmosis systems. Regardless of which reclaim water system they use, the reclaim system should be checked for sanitary design, reasonable construction materials, and protection from contamination. Only potable water may be used on finishing room equipment product contact surfaces for final rinse and sanitizing. Reclaim water may not be bottled for sale as drinking water.

- The evaporator room shall be constructed with walls and ceiling that are sealed tight to control entry of birds, rodents and insects, and a floor that is smooth, durable and maintained in a clean condition. Dirt floors and household pets are not permitted. The walls and ceiling are not required to be completely finished however, they shall be maintained in a clean condition. Painting all exposed raw wood a light color is recommended.
- Evaporators may be fueled by gas, oil or wood. All fuel storage shall be kept outside the evaporator building.
- Diatomaceous earth may be used as a filtering agent. Must be food grade.
NOTE: It has been reported that egg shells have also been used as a filtering agent. Egg shells may not be used due to allergen concerns unless declared on the label.
- Defoamers may be used in small amounts; a common one in use today is vegetable oil. Be sure defoamers are food grade and if an allergen concern such as butter or eggs they too must be declared on the label.
- All overhead lights shall be shatterproof or shielded.
- Ventilation shall be sufficient to remove steam.
- A hand wash station shall be provided with potable water, hand soap and paper towels.
- Equipment shall be maintained in good repair and in clean condition.
- The evaporator may include a vented hood to effectively remove steam. The steam-side of the hood shall be smooth, durable, impervious to moisture, and easily cleanable. Vented hoods made with wood frames shall have the wood surfaces only on the outside of the hood.
- Utensils such as cloth filters, hydrometers, thermometers, skimmers, etc. shall be made of food grade material, kept clean and stored protected between uses.

SAP/SYRUP COLLECTION AND STORAGE

- Syrup tanks and bulk containers shall be made of food grade material, rust free, in good condition and clean. Syrup tanks shall be kept covered.
- Filter socks shall be clean and sanitary. Filter presses should be rinsed with hot water after each day's use.
- If ultra violet lights are used, they shall be shielded or shatterproof.

SAP/SYRUP COLLECTION AND STORAGE

- A hand wash station shall be provided with potable water, hand soap and paper towels. NOTE: If one hand wash station is conveniently located to serve both the evaporator room and the syrup finishing room, a separate hand wash station is not necessary in the finishing room.
- Water supplied shall be obtained from a source that complies with current DNR regulations, transported and held in a sanitary manner and be sampled and tested each year for compliance with microbiological standards.
- Syrup finishing equipment shall be cleaned after each day's use.

SYRUP FINISHING AND PACKAGING

- Milk house type construction is recommended with regard to doors, walls, ceiling, floor and lights. The family home kitchen is not approved for syrup finishing and packaging.
- The finishing room shall be kept clean, neatly organized and free of unnecessary articles.
- Suitable equipment wash sinks are required for cleaning and sanitizing utensils and equipment. ATCP 70 requires as a standard a three compartment sink. If equipment that is washed by hand is minimal a two compartment sink may suffice. A limited processing agreement must be filled out and signed. A copy must be kept on file on site and reference to it must be made in every inspection report. The inspector should question the operator about the cleaning procedures and determine what minimum facilities are needed/required and make recommendations based on their assessment.
- Effective sanitizing methods must be demonstrated.
- A hand wash station shall be provided with potable water, hand soap and paper towels. NOTE: If one hand wash station is conveniently located to serve both the evaporator room and the syrup finishing room, a separate hand wash station is not necessary in the finishing room.
- Water supply shall be obtained from a source that complies with current DNR regulations and be sampled and tested each year for compliance with microbiological standards.

RETAIL CONTAINERS

- Commercial retail packaging containers are recommended. If glass jars designed for multiple use are re-used, they shall be washed and sanitized prior to filling. Only new lids shall be used on glass jars that have been returned for re-use. Old lids shall be discarded; rings may be re-used if in good condition.
- Retail containers shall be stored protected from potential contamination.
- The retail sales area shall be separate from all production areas.
- Labels shall conform to minimum requirements (common name of the food, name & location of the processor or distributor, net quantity). Ingredient listing is required if table syrup (not "Pure" maple syrup) is produced.

GENERAL ITEMS

- Outside surroundings shall be neatly maintained.
- Toilet facilities (including outhouses) shall be properly supplied, conveniently located and include a self-closing door and hand wash station.
- Waste, refuse and junk items shall not be allowed to accumulate on the premises.
- Maple syrup grading requirements may be found in ATCP 157 subchapter II.
- The inspector should be observant for foreign sweeteners (sugar supplies) stored on site and check product labeling for ingredient listings. Product samples may be collected if doubts exist regarding added sweeteners. "Pure" maple syrup is considered adulterated if analyses results reveal malic acid is less than 0.35% and soluble solids is less than 66%.
- **Lead taps may not be used for sap collection at the tree. Lead-based solder may not be used for equipment repair to product contact surfaces or plumbing.**

ACTION LEVELS FOR LEAD IN MAPLE SYRUP

The Food & Drug Administration has advised the Maple Syrup industry of a 500 ppb (parts per billion) standard. As long as the results are below that level, the FDA does not take any action.

To promote a uniform interpretation, Division personnel are requested to use the following guidelines, based on laboratory analysis results for lead.

- If test results are less than 250 ppb, no follow-up required.
- If test results are at least 250 ppb but less than 500 ppb, this is a preventive action limit. The Supervisor will direct follow-up with an on site visit to determine potential sources of contamination and use the visit as an opportunity to educate the manufacturer on possible causes and preventive action.
- If test results are at or above 500 ppb, this is an action level. The Supervisor will consult with the FDA to determine the most appropriate follow-up. The follow-up action may include an on-site inspection, evaluation of equipment and facilities to determine potential causes and holding the product. The Division of Food Safety will work in a cooperative manner with FDA in an effort to eliminate causes and reduce test results on future sampling.